

Method of Computer-Supported Control of Manufacturing Processes

Claims

1. Method of control of several temporally and spatially interlocking manufacturing processes on the basis of performance descriptions capable of being continued over an arbitrary number of performance phases using a data processing system equipped with at least one storage unit and associated input and output units, in which the performance descriptions are deposited in at least one data bank in a data format, data set by data set, according to performance items, and on the basis of this data format, the performance descriptions can be represented and processed in various input and output formats in the input and output units,

characterized in that the updateable performance descriptions are formulated a second time in at least one additional data bank in a standardized data format according to performance units (LE 1 to n), data set by data set, the performance units (LE) comprising at least one data bank reference, such as works, time, place and resource, production-specifically in such interrelationship with the data banks in the data format by performance unit (LE) that the data of the performance items (LV) are subdivisible into subsets of an arbitrary number of performance units (LE) in such manner that the data of the performance items (LV) are completely coordinated with said performance units and bidirectionally linked with the same, said performance units (LE) being variable according to the progress of the performance phases with retention of the links with the data of the performance items (LV), and the performance descriptions (LB) being also

processable and representable on the basis of the data format by performance units (LE) in the various input and output formats of the input and output units of the data processing system (DVA).

2. Method according to claim 1,

characterized in that the performance units (LE) are hierarchically grouped and arbitrarily variable in their number, the data of the performance items (LV) of the altered number of performance units (LE) are completely coordinated and linked to the latter bidirectionally.

3. Method according to claims 1 and 2,

characterized in that the content and scope of the performance units (LE) is arbitrarily variable, the data of the performance items (LV) being completely coordinated with the altered performance units (LE) and bidirectionally linked to them.

4. Method according to any of claims 1 to 3,

characterized in that the content, scope and subdivision of the data of the performance items (LV) is variable in partial performance units (TLE), the altered data of the performance items (LV) being completely coordinated with the existing performance units (LE) and bidirectionally linked to them.

5. Method according to any of claims 1 to 4,

characterized in that according to the performance phases, the performance units (LE) are divisible into subordinate planes in partial performance units (TLE), the data of the partial performance units (TLE) being

completely coordinated with the performance units (LE) of the superordinate plane and bidirectionally linked to them.

6. Method according to any of claims 1 to 5,
characterized in that the content and scope of the partial performance units (TLE) is arbitrarily variable, while retaining the links with the data of the superordinate performance units (LE).

7. Method according to any of claims 1 to 6,
characterized in that the partial performance units (TLE) are modifiable according to performance phases in their data bank reference, such as works, time, place and resource reference.

8. Method according to any of claims 1 to 7,
characterized in that the partial performance units (TLE) can be adopted in an output format (AF) in the form of a pre-protocol (VP), and said output format (AF) is imageable in the output medium (AM).

9. Method according to any of claims 1 to 8,
characterized in that the partial performance units (TLE) of the pre-protocol (VP) are definable as reference quantities in the form of a target status.

10. Method according to any of claims 1 to 9,
characterized in that the partial performance units (TLE) defined in target status as reference quantities can be taken over in an output format (AF) in the form of a protocol, and the latter is imageable in the output medium (AM).

11. Method according to any of claims 1 to 10,

characterized in that the partial performance units (TLE) defined as reference quantities in the form of target status can be taken over in an output format (AF) in the form of a daily report (TM) and the latter is imageable in the output medium (AM).

12. Method according to any of claims 1 to 11,

characterized in that the daily reports (TM) may be supplemented within the input unit (E) with data of the reported performances.

13. Method according to any of claims 1 to 12,

characterized in that the partial performance units (TLE) defined as reference quantities in form of target status are analytically comparable to the data of the reported performances in the data banks (DB) and the results are documentable by way of the output medium (AM).

14. Method according to any of claims 1 to 13,

characterized in that the reference quantities in the form of partial performance units (TLE) defined in form of target status can be taken over with the data of the reported performances in an output format (AF) in the form of a control list (KL) and the latter is imageable in the output medium (AM).

15. Method according to any of claims 1 to 14,

characterized in that the control lists (KL) can be supplemented within the input unit (E) with data defined as actual status of the actual performances.

16. Method according to any of claims 1 to 15,

characterized in that the controlling of the performances of the executant takes place analytically by means of the target and actual status of the partial

performance units (TLE) in the control lists (KL) in the data banks (DB) and the results are documentable by means of the output medium (AM).

17. Method according to any of claims 1 to 16,

characterized in that the results of the controlling of the target and actual status of the partial performance units (TLE) of the daily reports are comparable with those of the control lists (KL), and the results are documentable by way of the output medium (AM).

18. Method according to any of claims 1 to 17,

characterized in that by way of a data feedback (DRB) from the target and actual status of the partial performance units (TLE) to the items of the contractual performances with their prices, the state of fulfillment of the contractual performances and the chargeable costs in each performance phase are determinable and documentable by way of the output medium (AM).

19. Method according to any of claims 1 to 18,

characterized in that the accountings for fulfilled contractual performances of the executants are detectable as costs through the input unit (E), comparable in data feedback (DRB) with the costs to be settled, and the results are documentable by way of the output medium (AM).

20. Method according to any of claims 1 to 19,

characterized in that the results in the data banks (DB) bear a defined relationship to pre-formulated measures, and the latter can be represented on the output medium (AM) in transaction-corresponding form.